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Sequence Listing was accepted.

See attached Validation Report.

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217-9197 (toll free).

Reviewer: markspencer

Timestamp: [year=2009; month=8; day=27; hr=12; min=53; sec=30; ms=213; ]

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Application No: 10578840 Version No: 2.0

**Input Set:**

**Output Set:**

**Started:** 2009-07-30 11:00:11.438  
**Finished:** 2009-07-30 11:00:19.922  
**Elapsed:** 0 hr(s) 0 min(s) 8 sec(s) 484 ms  
**Total Warnings:** 122  
**Total Errors:** 2  
**No. of SeqIDs Defined:** 122  
**Actual SeqID Count:** 122

| Error code | Error Description                                   |
|------------|---|
| W 213      | Artificial or Unknown found in <213> in SEQ ID (1)  |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (2)  |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (3)  |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (4)  |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (5)  |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (6)  |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (7)  |
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| W 213      | Artificial or Unknown found in <213> in SEQ ID (9)  |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (10) |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (11) |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (12) |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (13) |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (14) |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (15) |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (16) |
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| W 213      | Artificial or Unknown found in <213> in SEQ ID (18) |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (19) |
| W 213      | Artificial or Unknown found in <213> in SEQ ID (20) |

**Input Set:**

**Output Set:**

**Started:** 2009-07-30 11:00:11.438  
**Finished:** 2009-07-30 11:00:19.922  
**Elapsed:** 0 hr(s) 0 min(s) 8 sec(s) 484 ms  
**Total Warnings:** 122  
**Total Errors:** 2  
**No. of SeqIDs Defined:** 122  
**Actual SeqID Count:** 122

| Error code | Error Description   |
|------------|---|
|            | This error has occurred more than 20 times, will not be displayed |
| E 257      | Invalid sequence data feature in <221> in SEQ ID (122)            |
| E 257      | Invalid sequence data feature in <221> in SEQ ID (122)            |

SEQUENCE LISTING

<110> KIKUCHI, YASUFUMI  
UNO, SHINSUKE  
KINOSHITA, YASUKO  
IIJIMA, SHIGEYUKI  
FUKUSHIMA, NAOSHI  
TSUCHIYA, MASAYUKI

<120> HUMANIZED ANTI-CD47 ANTIBODY

<130> 060641-0113

<140> 10578840

<141> 2009-07-30

<150> PCT/JP2004/016744

<151> 2004-11-11

<150> JP 2003-381406

<151> 2003-11-11

<160> 122

<170> PatentIn version 3.5

<210> 1

<211> 133

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

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cccaagcttc caccatggaa tggagctgga tatttctctt cctcctgtca ggaactgcag 60

gtgtccactc ccaggtgcag ctggtgcaagt ctggggctga ggtgaagaag cctggggcct 120

cagtgaagg ttc 133

<210> 2

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<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

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gcagtctcag atc 133

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<220>  
<223> Description of Artificial Sequence: Synthetic polynucleotide

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gaataaacatg gtggcgaag gtgtatccag atgccttaca gaaaaccttc actgaggccc 120  
caggcttctt cac 133

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<211> 133  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic polynucleotide

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tatagtaacc ccctctagca caataataga cggccgtgtc ctcagatctg agactgctca 120  
actccatgt a gac 133

<210> 5  
<211> 23  
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<220>  
<223> Description of Artificial Sequence: Synthetic primer

<400> 5  
cccaagcttc caccatggaa tgg 23

<210> 6  
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<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic primer

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<220>  
 <223> Description of Artificial Sequence: Synthetic plasmid  
 polynucleotide

<220>  
 <221> sig\_peptide  
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<220>  
 <221> CDS  
 <222> (1)..(408)

<220>  
 <221> mat\_peptide  
 <222> (58)..(408)

<400> 7

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|-------------|---------|---------|---------|---------|---------|---------|-----|----|----|
| atg gaa tgg | agc tgg | ata ttt | ctc ttc | ctc ctg | tca gga | act gca | ggg |    | 48 |
| Met Glu Trp | Ser Trp | Ile Phe | Leu Phe | Leu Leu | Ser Gly | Thr Ala | Gly |    |    |
| -15         |         |         |         |         |         |         |     | -5 |    |

|             |         |         |         |         |         |         |         |  |    |
|-------------|---------|---------|---------|---------|---------|---------|---------|--|----|
| gtc cac tcc | cag gtg | cag ctg | gtg cag | tct ggg | gct gag | gtg aag | aag     |  | 96 |
| Val His     | Ser Gln | Val Gln | Leu Val | Gln Ser | Gly Ala | Glu Val | Lys Lys |  |    |
| -1          | 1       |         | 5       |         |         | 10      |         |  |    |

|         |         |         |         |         |         |         |         |  |     |
|---------|---------|---------|---------|---------|---------|---------|---------|--|-----|
| cct ggg | gcc tca | gtg aag | gtt tcc | tgt aag | gca tct | gga tac | acc ttc |  | 144 |
| Pro Gly | Ala Ser | Val Lys | Val Ser | Cys Lys | Ala Ser | Gly Tyr | Thr Phe |  |     |
| 15      |         |         | 20      |         | 25      |         |         |  |     |

|             |         |         |         |         |         |         |     |  |     |
|-------------|---------|---------|---------|---------|---------|---------|-----|--|-----|
| gcc aac cat | gtt att | cac tgg | gtg cga | cag gcc | cct gga | caa ggg | ctt |  | 192 |
| Ala Asn His | Val Ile | His Trp | Val Arg | Gln Ala | Pro Gly | Gln Gly | Leu |  |     |
| 30          |         |         | 35      |         | 40      |         | 45  |  |     |

|             |             |             |         |         |         |         |  |     |
|-------------|-------------|-------------|---------|---------|---------|---------|--|-----|
| gag tgg atg | gga tat att | tat cct tac | aat gat | ggt act | aag tat | aat     |  | 240 |
| Glu Trp Met | Gly Tyr Ile | Tyr Pro     | Tyr Asn | Asp Gly | Thr Lys | Tyr Asn |  |     |
| 50          |             |             | 55      |         | 60      |         |  |     |

|             |             |             |         |         |         |         |     |     |
|-------------|-------------|-------------|---------|---------|---------|---------|-----|-----|
| gag aag ttc | aag gac aga | gtc acg atg | acc cgg | gac acg | tcc acg | agc     |     | 288 |
| Glu Lys Phe | Lys Asp Arg | Val Thr     | Met Thr | Arg Asp | Thr Ser | Thr Thr | Ser |     |
| 65          |             |             | 70      |         | 75      |         |     |     |

|             |         |         |         |         |         |         |         |  |     |
|-------------|---------|---------|---------|---------|---------|---------|---------|--|-----|
| aca gtc tac | atg gag | ttg agc | agt ctc | aga tct | gag gac | acg gcc | gtc     |  | 336 |
| Thr Val     | Tyr Met | Glu Leu | Ser Ser | Leu Arg | Ser Glu | Asp Thr | Ala Val |  |     |
| 80          |         |         | 85      |         | 90      |         |         |  |     |

|             |         |         |         |         |         |         |     |  |     |
|-------------|---------|---------|---------|---------|---------|---------|-----|--|-----|
| tat tat tgt | gct aga | ggg ggt | tac tat | act tac | gac gac | tgg ggc | caa |  | 384 |
| Tyr Tyr Cys | Ala Arg | Gly Gly | Tyr Tyr | Thr Tyr | Asp Asp | Trp Gly | Gln |  |     |
| 95          |         |         | 100     |         | 105     |         |     |  |     |

gga acc ctg gtc acc gtc tcc tca ggtgagtgga tcccgcg

Gly Thr Leu Val Thr Val Ser Ser  
110 115

<210> 8  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 8  
gacagagtca cgatgacctc agacacgtcc acgaggcacag 40

<210> 9  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 9  
ggtcatcgatc actctgtc 18

<210> 10  
<211> 424  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic plasmid  
polynucleotide

<220>  
<221> sig\_peptide  
<222> (1)..(57)

<220>  
<221> CDS  
<222> (1)..(408)

<220>  
<221> mat\_peptide  
<222> (58)..(408)

<400> 10  
atg gaa tgg agc tgg ata ttt ctc ttc ctc ctg tca gga act gca ggt 48  
Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
-15 -10 -5

gtc cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag 96  
Val His Ser Gln Val Gln Ser Gly Ala Glu Val Lys Lys

|  |   |     |     |     |
|--|---|-----|-----|-----|
| -1   | 1 | 5   | 10  |     |
| cct ggg gcc tca gtg aag gtt tcc tgt aag gca tct gga tac acc ttc<br>Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe |   |     |     | 144 |
| 15   |   | 20  | 25  |     |
| gcc aac cat gtt att cac tgg gtg cga cag gcc cct gga caa ggg ctt<br>Ala Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu |   |     |     | 192 |
| 30   |   | 35  | 40  | 45  |
| gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat<br>Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn |   |     |     | 240 |
| 50   |   | 55  | 60  |     |
| gag aag ttc aag gac aga gtc acg atg acc tca gac acg tcc acg agc<br>Glu Lys Phe Lys Asp Arg Val Thr Met Thr Ser Asp Thr Ser Thr Ser |   |     |     | 288 |
| 65   |   | 70  | 75  |     |
| aca gtc tac atg gag ttg agc agt ctc aga tct gag gac acg gcc gtc<br>Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val |   |     |     | 336 |
| 80   |   | 85  | 90  |     |
| tat tat tgt gct aga ggg ggt tac tat act tac gac gac tgg ggc caa<br>Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln |   |     |     | 384 |
| 95   |   | 100 | 105 |     |
| gga acc ctg gtc acc gtc tcc tca ggtgagtgga tcccgcg<br>Gly Thr Leu Val Thr Val Ser Ser  |   |     |     | 424 |
| 110  |   | 115 |     |     |
| <210> 11   |   |     |     |     |
| <211> 40   |   |     |     |     |
| <212> DNA  |   |     |     |     |
| <213> Artificial Sequence  |   |     |     |     |
| <220>  |   |     |     |     |
| <223> Description of Artificial Sequence: Synthetic oligonucleotide  |   |     |     |     |
| <400> 11   |   |     |     |     |
| gcatctggat acaccccac caaccatgtt attcactggg   |   |     |     | 40  |
| <210> 12   |   |     |     |     |
| <211> 18   |   |     |     |     |
| <212> DNA  |   |     |     |     |
| <213> Artificial Sequence  |   |     |     |     |
| <220>  |   |     |     |     |
| <223> Description of Artificial Sequence: Synthetic oligonucleotide  |   |     |     |     |
| <400> 12   |   |     |     |     |
| gaagggtgtat ccagatgc   |   |     |     | 18  |
| <210> 13   |   |     |     |     |
| <211> 424  |   |     |     |     |

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic plasmid  
polynucleotide

<220>  
<221> sig\_peptide  
<222> (1)..(57)

<220>  
<221> CDS  
<222> (1) .. (408)

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<221> mat\_peptide  
<222> (58) .. (408)

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<400> 13
atg gaa tgg agc tgg ata ttt ctc ttc ctc ctg tca gga act gca ggt      48
Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
                           -15                      -10                      -5

```

```

gtc cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag      96
Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
          -1   1           5           10

```

```

cct ggg gcc tca gtg aag gtt tcc tgt aag gca tct gga tac acc ttc      144
Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
          15           20           25

```

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acc aac cat gtt att cac tgg gtg cga cag gcc cct gga caa ggg ctt      192
Thr Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
30          35          40          45

```

gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat 240  
 Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
 50 55 60

gag aag ttc aag gac aga gtc acg atg acc tca gac acg tcc acg agc 288  
Glu Lys Phe Lys Asp Arg Val Thr Met Thr Ser Asp Thr Ser Thr Ser  
65 70 75

```

aca gtc tac atg gag ttg agc agt ctc aga tct gag gac acg gcc gtc      336
Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
80          85          90

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gga acc ctg gtc acc gtc tcc tca ggtgagtgga tcccg  
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<210> 14  
 <211> 39  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 14  
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<210> 15  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 15  
 gtccttgaac ttctcatt 18

<210> 16  
 <211> 424  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic plasmid polynucleotide

<220>  
 <221> sig\_peptide  
 <222> (1)..(57)

<220>  
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 <222> (1)..(408)

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                          -15                         -10                     -5

gtc cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag 96  
 Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
                          -1   1                  5                     10

cct ggg gcc tca gtg aag gtt tcc tgt aag gca tct gga tac acc ttc 144

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
 15 20 25

gcc aac cat gtt att cac tgg gtg cga cag gcc cct gga caa ggg ctt  
 Ala Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu  
 30 35 40 45 192

gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat  
 Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
 50 55 60 240

gag aag ttc aag gac aaa gtc acg atg acc tca gac acg tcc acg agc  
 Glu Lys Phe Lys Asp Lys Val Thr Met Thr Ser Asp Thr Ser Thr Ser  
 65 70 75 288

aca gtc tac atg gag ttg agc agt ctc aga tct gag gac acg gcc gtc  
 Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val  
 80 85 90 336

tat tat tgt gct aga ggg ggt tac tat act tac gac gac tgg ggc caa  
 Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln  
 95 100 105 384

gga acc ctg gtc acc gtc tcc tca ggtgagtgga tcccgcg  
 Gly Thr Leu Val Thr Val Ser Ser 424

110 115

<210> 17

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 17

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<210> 18

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 18

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<210> 19
<211> 424
<212> DNA
<213> Artificial Sequence
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<220>  
<223> Description of Artificial Sequence: Synthetic plasmid  
polynucleotide

<220>  
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<220>  
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<400> 19  
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Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
-15 -10 -5

```

gtc cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag      96
Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
          -1   1           5           10

```

```

cct ggg gcc tca gtg aag gtt tcc tgt aag gca tct gga tac acc ttc      144
Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
          15           20           25

```

```

gcc aac cat gtt att cac tgg gtg cga cag gcc cct gga caa ggg ctt      192
Ala Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
30          35          40          45

```

gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat 240  
 Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
 50 55 60

```

gag aag ttc aag gac aga gtc acg ctg acc tca gac acg tcc acg agc      288
Glu Lys Phe Lys Asp Arg Val Thr Leu Thr Ser Asp Thr Ser Thr Ser
          65           70           75

```

```

aca gtc tac atg gag ttg agc agt ctc aga tct gag gac acg gcc gtc      336
Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
          80           85           90

```

tat tat tgt gct aga ggg ggt tac tat act tac gac gac tgg ggc caa 384  
 Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln  
           95             100             105

gga acc ctg gtc acc gtc tcc tca ggtgagtgga tcccgcg 424  
Gly Thr Leu Val Thr Val Ser Ser  
110 115

<210> 20

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 20  
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<210> 21  
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<212> DNA  
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<220>  
<223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 21  
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<210> 22  
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<212> DNA  
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<223> Description of Artificial Sequence: Synthetic plasmid polynucleotide

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<222> (1)..(408)

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<221> mat\_peptide  
<222> (58)..(408)

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atg gaa tgg agc tgg ata ttt ctc ttc ctc ctg tca gga act gca ggt 48  
Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
-15 -10 -5

gtc cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag 96  
Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
-1 1 5 10

cct ggg gcc tca gtg aag gtt tcc tgt aag gca tct gga tac acc ttc 144  
Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
15 20 25

|   |     |    |    |
|---|-----|----|----|
| acc aac cat gtt att cac tgg gtg cga cag gcc cct gga caa ggg ctt | 192 |    |    |
| Thr Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu |     |    |    |
| 30  | 35  | 40 | 45 |
| gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat | 240 |    |    |
| Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn |     |    |    |
| 50  | 55  | 60 |    |
| gag aag ttc aag gac aga gtc acg atg acc tca gac acg tcc acg agc | 288 |    |    |
| Glu Lys Phe Lys Asp Arg Val Thr Met Thr Ser Asp Thr Ser Thr Ser |     |    |    |
| 65  | 70  | 75 |    |
| aca gtc   |     |    |    |